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The
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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Bence Lehman

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Pamela Morton

Attest



US005818839A

United States Patent [19]

Sterne et al.

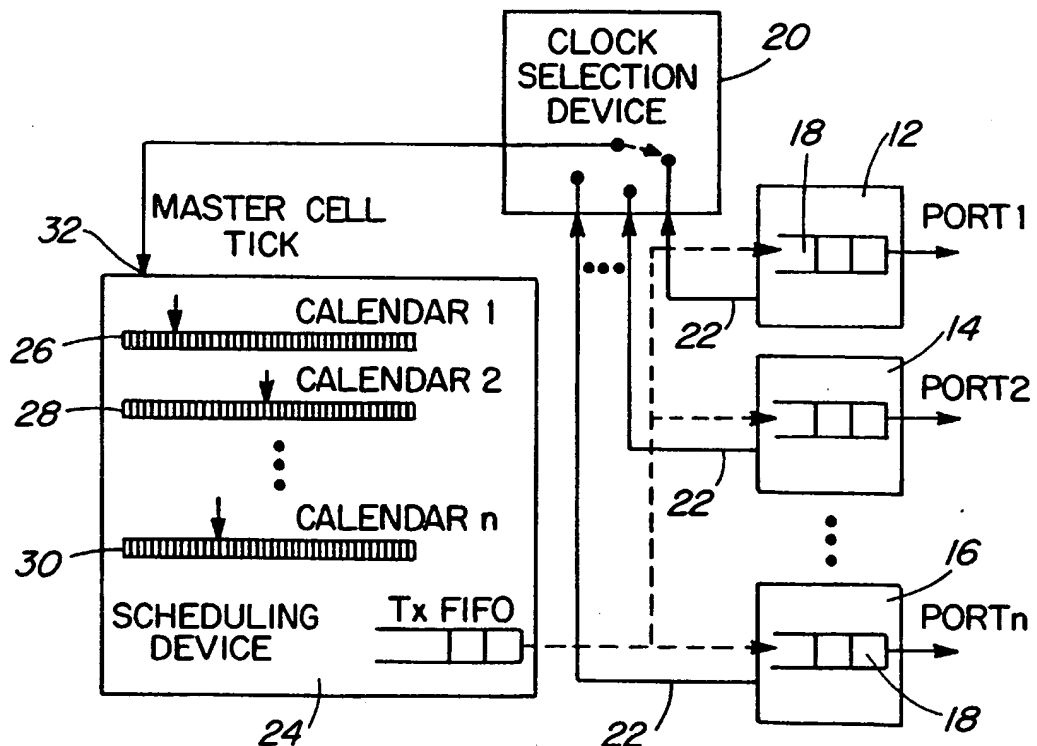
[11] **Patent Number:** 5,818,839[45] **Date of Patent:** Oct. 6, 1998[54] **TIMING REFERENCE FOR SCHEDULING DATA TRAFFIC ON MULTIPLE PORTS**[75] **Inventors:** Jason T. Sterne, Ottawa; David W. Carr; Joey M. W. Chow, both of Nepean, all of Canada[73] **Assignee:** Newbridge Networks Corporation, Kanata, Canada[21] **Appl. No.:** 884,625[22] **Filed:** Jun. 27, 1997[51] **Int. Cl.⁶** H04L 12/56[52] **U.S. Cl.** 370/391; 370/418[58] **Field of Search** 370/468, 543, 370/412, 414, 416, 418, 230, 235, 391, 417, 395[56] **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Chau Nguyen*Assistant Examiner*—Kenneth Vanderpuye*Attorney, Agent, or Firm*—Marks & Clerk[57] **ABSTRACT**

Data traffic such as cell streams in an ATM communication network frequently contain data destined for multiple output ports having different transmission data rates. In order to accurately schedule such traffic a clocking signal unique to each output data rate is required. This invention provides systems and methods for generating the necessary clock signals utilizing a single timing reference.

12 Claims, 2 Drawing Sheets

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